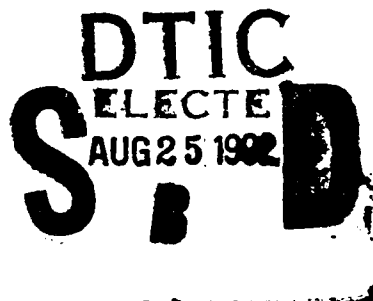




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Raids At The Operational Level – To What End?

A Monograph
by
Major Harry E. Mornston
Infantry



School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

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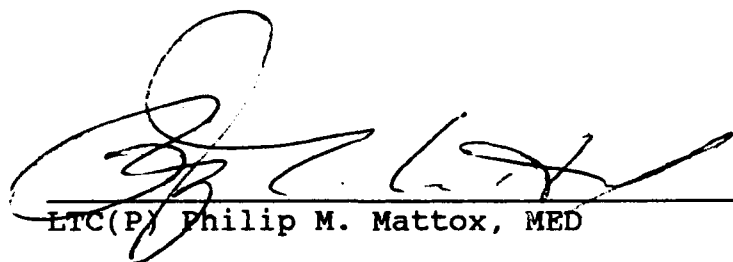
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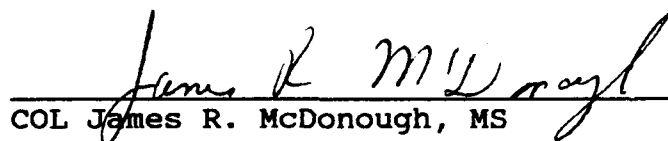
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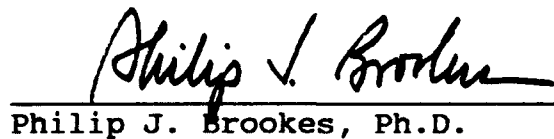
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ABSTRACT

RAIDS AT THE OPERATIONAL LEVEL - TO WHAT END? by MAJ Harry E. Mornston, USA, 48 pages.

This monograph addresses contemporary raid warfare and the effect it can produce at the operational level of war. "Can operational raids be decisive?" is the question that is researched and answered in the course of this paper.

After establishing raid warfare as an alternative to traditional, persisting campaigns between massed armies, the definitions of operational raid and decisiveness are derived. The current strategic environment is then examined to determine the balance of power, the ends sought and the means available to determine the feasibility of raids as a way to conduct war at the operational level. At the operational level specific conditions are identified and examined that impact on the acceptability and suitability of a raid. The specific conditions that are addressed are the existence of a suitable target, availability of forces to conduct a raid, and the political or diplomatic constraints that impact on the type of operation that is planned.

This monograph concludes that operational raids are a viable option for accomplishing limited objectives in a short period of time. The current strategic setting characterized by US military dominance makes raid warfare feasible. The operational commander must evaluate the specific conditions to determine the suitability and acceptability of a raid.

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1. INTRODUCTION

In December 1862, Major General U.S. Grant, the commander of Union forces in the Department of the Tennessee, made his first attempt to reduce the Confederate fortress at Vicksburg and gain control of the Mississippi River. Grant's overland attack with 40,000 men was executed in conjunction with an amphibious movement down the Mississippi and up the Yazoo River by Major General William T. Sherman with 30,000 men. Lieutenant General John C. Pemberton commanding the Army of Mississippi had only 12,000 Confederates in Vicksburg for its defense. The Union forces had overwhelming numerical superiority for an attack that, if successful, would open the Mississippi River as a Union supply route and cut the Confederacy in half.

However, in a surprise move, the usually defensive minded Pemberton authorized a stunning operational level raid on Grant's rear that smashed his first attempt to take Vicksburg. On December 20, Major General Earl Van Dorn's cavalry thundered into the Union supply base at Holly Springs. When Van Dorn's 3500 raiders left twelve hours later they had provisioned themselves handsomely, and burned everything that they could not carry with them. The

inferno in Holly Springs consumed every Union warehouse and destroyed over a million rations as well as other critical sinews that would sustain Grant's campaign. Almost simultaneously and according to Pemberton's plan, Nathan Bedford Forrest, leading a raiding detachment of 2500 Rebels from the adjacent theater in Tennessee, struck Grant's line of communication ninety miles to the Union rear and destroyed over sixty miles of the Mobile and Ohio Railroad. Both raiding forces evaded pursuing Union forces as they returned to friendly territory. The casualties suffered by Van Dorns's and Forrest's units were insignificant.¹

The effect of these coordinated raids was devastating. Grant lost the bulk of his supplies at Holly Springs and the railroad line that he would have used to replenish them. This audacious raid conducted by a theater commander deep into the enemy's rear stymied Grant. He was forced to abandon his advance and spent the rest of the winter seething in frustration. The first major operation of the Vicksburg campaign was decided by an operational raid. There may have been other ways to defeat the Union attack on Vicksburg, but in this case the Confederates selected a raid and it produced a tremendous victory.

War is waged in a variety of ways using different types of forces to achieve military and political objectives. As

an art, war requires a commander to select the most appropriate way to achieve his goals in accordance with the forces available to him and considerations such as the enemy, terrain, and time. FM 100-5, Operations states:

There are a number of general ways to defeat a large enemy force in a theater. Each has historical precedents and can be used either singly or in combination. These begin with physical destruction of the enemy force, the most costly albeit direct way of winning. They extend to less direct methods such as reducing the enemy's strength by defeating or otherwise depriving him of allies; separating his armies in the field to confront him with piecemeal defeat; preventing his deployment; destroying his logistic support; occupying decisive terrain to force him to fight under unfavorable conditions; or carrying the war into his homeland.

Although large-scale raids such as the cavalry actions at Vicksburg are not specifically mentioned in the above passage from FM 100-5 it could very well have applied. This monograph addresses contemporary raid warfare and the effect it can produce at the operational level of war. More specifically, this study will argue that raids can be the decisive action at the operational level. Support for this conclusion will be established by following the methodology outlined below.

Monograph Overview

The initial section of this monograph provides an explanation of the terms that are central to this subject.

In particular, the various formal definitions of a raid are explored and dissected to produce an understanding of raid warfare at the operational level. The second definition relates to the ambiguous term "decisive." This word is used liberally throughout literature on warfare, to include our doctrine, but is not adequately or succinctly defined. After establishing a common understanding of terms and briefly addressing existing doctrine on raids, the next section is a general analysis of the contemporary environment as it applies to the military element of power. Following an assessment of the global balance of power this section of the monograph provides an analysis that views the ends and means to determine the feasibility of raids as a way to conduct war at the operational level.

After a general view of the environment, this monograph addresses specifics such as targets, training and positioning of the force, and constraints that may impact on the acceptability and suitability of a raid. These are the specifics that an operational commander must consider when evaluating a raid as a potential course of action.

II. BACKGROUND

Traditionally, decisions in warfare have resulted from direct combat between the massed armies of the opponents.

While this direct approach to warfare offers many opportunities for imaginative maneuver and synchronized, artful employment of combat power, its premise remains an epic encounter (or a series of encounters at the operational level) that matches strength on strength. Through the conduct of this series of battles the campaign is decided and the victor achieves his strategic goal. The direct approach, therefore, frequently results in protracted, attrition warfare.

An alternative to this traditional, persisting approach to warfare is a raiding strategy.³ Throughout history commanders at the tactical, operational, and strategic levels have used raids of many varieties to influence the outcome of their operations or occasionally to actually produce the final decision. The ancient Greeks found a raiding strategy well suited to their ends and means. They had limited political goals, rarely sought the overthrow of their enemy, and strongly desired to avoid conflict of a persisting nature.⁴

George Washington also used a form of raiding strategy when he led the Continental Army during the American Revolution. Because of his army's qualitative and quantitative inferiority, Washington's "chief stock in trade of active war [was] the erosion of the enemy's strength by means of hit and run strikes against his

outposts."⁵ Washington's strategy was founded upon weakness and virtually dictated by the lack of forces available to him. It is interesting that his objective (removal of British military presence from the colonies to support the political goal of independence) was as ambitious as it was and even more amazing that he was successful. Washington's Christmas Day raid on Trenton in 1776 represents the epitome of his raiding strategy.

At various times and for different reasons armies have employed a raiding strategy as the primary way to achieve their aims. But these occasions have been relatively rare. In their modern form raids have evolved toward small scale, limited objective, supporting attacks at the tactical level. Instead of producing a decision, raids have been used to set up the traditional cataclysmic battle between massed armies. Except through aircraft, raiding has played a less prominent role in warfare.

In the last several years, however, many technologies have made quantum leaps forward. Many of these technologies have led to new weapon systems that have been tested in combat and the results suggest that the methods of war are rapidly changing. This change is further driven by social, political, and economic factors. Taken together, technology, policy, and economic considerations, when matched with certain circumstances on the battlefield,

that are examined in the body of this paper, may make raid warfare an increasingly viable option for commanders.

Definitions

Operational Raid

The word "raid" means many things to many people. Visions of Ranger students executing platoon-sized operations on the Yellow River at the Florida Ranger Camp, the Barbary Pirates plundering the Mediterranean coast, 1000 plane raids to Schweinfurt, guerre de course (commerce raiding) by German U-boat commanders, and special operators "taking down" a prison to rescue a hostage are all examples of raids. The above list spans the levels of war from tactical to strategic and demonstrates the diverse nature and techniques of conducting raids. Raids in general, and operational raids in particular need to be precisely defined in order to establish the groundwork for this paper.

Current US military doctrine is a logical point to begin the search for the definition of a raid. According to Joint Pub 1-02, the Department of Defense Dictionary of Military and Associated Terms, and the US Army's FM 101-5-1, Operational Terms and Graphics, a raid is

an operation, usually small scale, involving a swift penetration of hostile territory to secure information, confuse the enemy, or destroy his installations. It ends with a planned withdrawal upon completion of the assigned mission.⁶

FM 100-5, Operations, the Army's keystone doctrinal manual further describes raids as (1) "a special form of spoiling attack designed to destroy installations and facilities critical to the enemy, and (2) "a limited objective attack into enemy territory for a specific purpose other than gaining and holding ground."⁷

These narrow definitions in doctrine emphasize raids primarily at the tactical level. The notion of a raid at the operational level of war however is not revolutionary. As suggested by the anecdote concerning the cavalry actions at Vicksburg, raids have been occasionally executed at the operational level with great success. Several other operational raids will be discussed throughout this monograph.

For the purposes of this monograph an operational raid is defined as a large-scale joint operation of relatively short duration designed to achieve an operational objective throughout the depth of a theater of operations or a theater of war. It is characterized by the following:

- designed, planned, and executed under the direction of an operational level commander
- employs all forces that can contribute to the success

of the operation regardless of the traditional view of their employment

- targets or objectives will be very specific but not constrained by the descriptors "limited or supporting" as in the doctrinal definition
- a rapid penetration to the target
- terminated by a planned or programmed withdrawal
- not designed to hold terrain for extended periods but the force may be in the objective area for several days

The verbs destroy, capture, and to a lesser extent, disrupt, are the effects desired on the target. A large-scale raid that is designed to achieve an operational objective may use a combination of stand off, long range attack means in concert with direct action forces that operate in the objective area and employ close combat to unequivocally complete the mission or verify the results.

The difference between tactical and operational level raids is best explained by examining the level at which the raid is planned. A raid that is conceived and planned by an operational commander to achieve a campaign objective is executed at the operational level of war. Granted, the execution of the raid may be accomplished through the use of tactical forces (air assault task forces, close air support aircraft, long range, conventional artillery, and attack helicopters) but that does not make it a tactical level activity. An operational raid may also make use of strategic assets (long range bombers, satellite imagery,

cruise missiles, national intelligence sources and surgical special operating forces). When discussing this subject there is definite blurring or overlap in the levels of war that makes it difficult to categorize the level of a specific activity. It is not possible to determine what level of war a particular event should be categorized as by examining only the forces used.

At the operational level it is very difficult to differentiate between the numerous derivatives of bold, deep attacks on critical targets using various techniques that are markedly different from traditional campaign strategies involving combat between massed armies. Attempting to distinguish between deep operations, interdiction, strikes, operational fires, and raids is often a matter of degree or semantics and can therefore cause conceptual disarray. In some instances the differences are minuscule and not worth debating; however, in the interest of establishing a common language it is necessary to address the differences.

A raid is one of several techniques of conducting a deep operation. Other forms of deep operations include air interdiction, attack helicopters operating across the forward line of own troops (FLOT), and ground maneuver to seize and hold terrain. Deep operations can also be conducted by using means other than combat forces operating

beyond the main battle area. For example, electronic warfare (EW), target acquisition systems, or psychological operations can be used to conduct deep operations.⁸

Thus, raids are a subset of deep operations.

Generally, raids are differentiated from other rapid deep attacks by the withdrawal of the raiders from the objective area after they have accomplished their mission. Additional differences between raids and other deep operations, although not explicitly stated in doctrine, may include the nature of the target, and the relationship between a raid, a deep operation, and a future close operation.

The prominent feature that makes a raid different from other deep operations is the action of the force after it completes its mission. The definition of a raid that is provided in doctrine, seemingly focused at the tactical level, stipulates that a raid ends with a planned withdrawal. At the operational level, because of the advanced systems and techniques that are available and the potential larger scope of the objectives, it is necessary to modify the definition to say that an operational raid ends with a **programmed** recovery or withdrawal to indicate that the exfiltration from the objective area is not necessarily immediate. By including this modification an operation such as the German glider assault on Fort Eben

Emael in May 1940 can be classified as an operational raid. Although the paratroopers did not immediately exfiltrate from the fort, in accordance with the operation plan, they linked up with and were relieved by other forces before returning to Germany to prepare for future airborne operations.⁹

On the other hand, MacArthur's amphibious landing at Inchon was a classic deep operation. X Corps which conducted the landing did not plan to withdraw from Inchon but instead conducted a link-up with other United Nations forces and continued to fight as part of the ground force.¹⁰

Deep operations that do involve combat units are usually tasked to destroy second echelon formations, enemy reserves, or other unengaged combat forces.¹¹ Attack helicopter battalions operating across the forward line of own troops (FLOT) to attack a moving second echelon of armored forces is a classic deep operation. An operational raid, as opposed to a deep operation conducted by attack helicopter units, may not target enemy combat forces but is more likely to be employed against logistics bases, command and control facilities, early warning networks, or other critical nodes. Although not stated in any doctrinal manual the nature of the targets may often discriminate

between a raid and a deep attack in a more conventional sense.

Another unquantifiable difference between a raid and a deep operation is the relationship to the future close battle. The link between close and traditional deep operations will be very direct in terms of time, space, and effect. On the other hand, raids, while still linked to the overall campaign may be more autonomous. Liddell Hart, based on his study of cavalry raids in the Civil War, suggested that raids were "occasionally of great effect" when used independently. "When acting in close operation with the army, [raids] proved ineffective in their offensive action."¹² An operational raid does not necessarily have to be directly linked to a close operation in the immediate future. Operational raids may be aimed at a target that is further removed in time, space, and effect than the other forms of deep operations.

Two French terms are very descriptive of the type of operation and the results that are sought from an operational raid that may be a decisive operation. Definitions and Doctrine of the Military Art, published by the Department of History at the US Military Academy defines coup de main as a "sudden attack in force" and a coup de grace as "a decisive finishing touch."¹³ A sudden attack in force in the form of a raid that produces

a finishing touch is the subject of this paper. It is now necessary to establish what is meant by "decisiveness."

Raids as Decisive Operations

The word "decisive" is commonly used when discussing the art of war. It is heard repetitively in the context of decisive operation, decisively engaged, decisive factor, decisive terrain, decisive point, or decisive maneuver. "Decisive" in any form is often used loosely with a variety of meanings such as of a large scale, bloody, famous, finishing quickly, turning point, or of great importance. This lack of precision prevents the reader from gaining a clear understanding of what is trying to be communicated.

The adjective "decisive" is used liberally throughout Joint and Army doctrine. FM 100-5 and Joint Pub 1, Joint Warfare of the US Armed Forces, make many references to decisiveness in widely varying contexts. However, there is no definition of a decisive operation in any doctrinal publication associated with the United States' military.

The New College Edition of the American Heritage Dictionary includes the following synonyms for decisive: beyond doubt, unmistakable, unquestionable and conclusive. "Having the ability to settle a dispute or doubt" is also included in the definition. Thus military action, specifically an operational raid, could be decisive if that

action either unmistakably determines the outcome or conclusively ends a major operation, or campaign and attains the strategic goal.

However, the notion of finding a single decisive factor or "golden screw" is misleading. It is not universally accepted that the factors that lead to conclusive, unmistakable outcomes between fighting forces can be discerned. James Dubik, an instructor at the School for Advanced Military Studies, suggests that attempting to identify a single factor or isolated event to determine the reason for a military victory is myopic or even arrogant. Decisions in complex human endeavors cannot be attributed to a single factor. This is especially true in warfare. In war there is a synergy created by a multiplicity of interrelated, synchronized events that occur in a number of domains that produces decisions.¹⁴

In spite of the academic arguments about the elusive nature of decisiveness, present military doctrine is enamored with the concept and the word itself. TRADOC PAM 525-5, A Concept for the Evolution of AirLand Battle for the Strategic Army of the 1990s and Beyond, uses a theoretical construct referred to as the Operational Cycle to categorize battlefield activities. This model identifies stages which are "designed to focus activities of all elements of the force."¹⁵ Two of the four stages are 'Establishing conditions for decisive operations' and

'decisive operations.' Based on the formal definitions of raids examined in the previous section of this monograph it appears that the trend of current thought is that raids fit only in the category of establishing the conditions for a decisive operation. By inference, raids are small, tactical operations that are designed to condition, shape, or isolate the battlefield to create a favorable environment for a more grand, decisive operation using the army's principle forces. FM 100-5 contributes to this notion when it states, "Air interdiction, air and ground reconnaissance, raids, psychological warfare actions, and unconventional warfare operations must all be synchronized to support the overall campaign, and its major operations on the ground, especially at its critical junctures." ¹⁶ Apparently, in the current lexicon there is no place for any of these subsidiary activities to be decisive. The implication is that only massed armies can achieve a decision. Thus, doctrinal definitions and descriptions suggest that raids are tactical, supporting (non-decisive) operations.

History has provided examples of several operational raids that have been the decisive event. George Washington's foray to Trenton during the American Revolution fits the definition of an operational raid very well. The raid was planned and led by the theater commander, it had an operational objective, it was designed

as a "hit and run" strike on a critical target, it involved a clandestine penetration to an area in the enemy's rear, and it combined the use of fires and maneuver to achieve the mission. The Christmas Day raid was also decisive. The instrument of the revolution, the Continental Army was on the verge of disintegration. The Americans had been thoroughly defeated by the British in virtually every battlefield encounter. The harsh living conditions in winter quarters and the impending expiration of the enlistments for most of the soldiers further complicated the situation.¹⁷

The raid on the Hessian Barracks provided an incredibly lopsided victory for the Colonists and an even more significant decision at the operational level. This raid did not win the war, but it kept the war from being lost.¹⁸ Without an immediate victory, the Continental Army, and hence the entire revolution may very well have folded.

A broad view of recent contingency operations, such as Operation JUST CAUSE, provides a more recent example of a decisive operational raid. Unlike the Trenton Raid which was conducted from a position of military inferiority, JUST CAUSE demonstrated the viability of a large-scale raid in the circumstance where the US possessed a vast military superiority. The way the operational commander applied the means in Operation JUST CAUSE fits the definition of an

operational raid. The Joint Task Force commander developed and executed a plan that struck twenty three critical targets in Panama simultaneously.¹⁹ Although the element of surprise may not have been absolute, a wide variety of forces rapidly attacked their assigned targets over land, by air and air drop, and from the sea to overwhelm the Panamanian Defense Force (PDF). The majority of the heavy fighting was over in one day.²⁰ The combat forces then executed a programmed recovery and returned to their permanent bases. An extended period of "mopping up" and stability operations followed, but the stated objective of eliminating the PDF was accomplished through the execution of an operational raid.

In spite of the implications in our doctrine, raid warfare, capitalizing on the changing nature of war that reintroduces many of the same conditions that were present in the age of battles, may offer a solution to achieving decisiveness on the modern battlefield.

III. CONTEMPORARY APPLICATION OF RAID WARFARE

A raid, regardless of its increasing potential as a form of warfare cannot assume the role as the sole or even primary method of applying the military element of power. There have always been, and will continue to be, multiple ways to accomplish military objectives. As the nature of

war changes however, the methods available to achieve military objectives at all levels will also change. The environment that currently exists presents an ever increasing number of options to employ the means (military forces) to produce decisions in war. In its discussion of battlefield dynamics, TRADOC PAM 525-5 states that there is a need to avoid the "mutual attrition of linear operations" by optimizing our sophisticated technologies and abilities. According to TRADOC PAM 525-5, the broadened range of options available to commanders increases the opportunities to employ his forces.²¹

The premise that a particular method or way of waging war is not only feasible, suitable, and acceptable, but also potentially decisive is best supported by examining the strategic and operational considerations. The strategic overview will examine the geopolitical setting, and the national ends and means that establish the ways of applying military force. At the operational level this monograph analyzes targets, force availability, and political constraints.

Geopolitical Setting

The strategic setting in 1992 and the near term future is vastly different from the one that has existed for the preceding four decades. The world has witnessed a

significant change in Europe that affects all aspects of international relations. The monumental changes in eastern Europe and the demise of the Soviet Union have completely changed the mosaic. World politics are no longer dominated by an East versus West, bipolar world of two adversarial coalitions. Today the world is unipolar. The United States is the world's only superpower that combines military, political, and economic leverage. The evolving strategic setting produces a greatly reduced likelihood of general war in Europe or any other theater. The net result is much greater flexibility and many more options in the application of the military element of power for the United States. The United States can come out of its defensive stance that previously required that every contingency had to be weighed against the Soviet threat in Europe. The United States now has an offensive option.

The world however is not at peace and the United States is not universally safe. The possibility of a less intense conflict generated by emerging regional powers that have the means and motivation to threaten US interests are now much greater. The Third World is arming itself at an alarming rate. The proliferation of both conventional weapons and weapons of mass destruction is producing well armed military organizations in many countries around the world.

In spite of the increasing military capabilities of many countries, the armed forces of the United States are the most effective military organization in the world. Against any potential enemy or combination of enemies in the foreseeable future, the United States maintains a qualitative (and in most cases a quantitative) advantage of several orders of magnitude. A mismatch of this type has historically been one of the conditions that produced overwhelming, decisive victories on the battlefield. Napoleon's greatest victories occurred prior to 1809 when the French army greatly outclassed the antiquated armies of his foes. When Napoleon was opposed by an army that approached parity, his victories were less conclusive and not as frequent.²² The current US military is clearly dominant against any foe except for the residual nuclear forces within the former Soviet Union.

The final aspect of the current strategic setting is domestic. It involves the expectations of the American people and the civilian political authorities who are linked to the military in a way that is best explained by Carl von Clausewitz.²³ The US armed forces, when as a last resort are employed to produce a military solution, are expected to achieve unquestionable results, in a short period of time, while incurring a low number of casualties to US forces. Economic and social considerations are demanding an effective and efficient use of the military

element of power. The expectation for a clear, quick victory with a small cost to the United States is synonymous with decisiveness. The US military expeditions to Grenada in 1983, Panama in 1989, and to a lesser extent, Saudi Arabia in 1990 characterize the desired results of the use of our military.

The conclusions that can be drawn from the preceding description of the strategic setting of the 1990s are that the possibility of decisiveness is real because of the mismatch that exists between the armed forces of the United States and the rest of the world. Additionally, the attempts by regional powers to arm themselves by obtaining increasingly lethal, but relatively unsophisticated weapons systems controlled on the battlefield by antiquated systems, begins to set the conditions that favor a form of raid warfare.

Ends

The desired end state of military activity at the operational level is directly linked to political/strategic objectives. Brigadier Richard Simpkin in Deep Battle: The Brainchild of Marshal Tukhachevskii when describing the Soviet view of the operational level states:

. . . technological advance has in fact broadened the operational level if one defines that level as one which possess assets capable of achieving an aim lying at one remove, and one remove only, from

an aim²⁴ which can be stated in politico-economic terms.

The process of receiving guidance from strategic authorities and deriving a set of military objectives to achieve a political aim requires a high degree of operational vision. The political goals and therefore the military objectives will differ in every situation that requires the military element of power. The fact that the end state in each situation may be vastly different from previous contingencies makes it difficult to address the ends. Nonetheless, with an inherent amount of uncertainty, several broad assumptions about the general nature of the objectives for the application of the military can be made.

The potential conflicts of the immediate post-Cold War era will not approach the level of general, global war that has been envisioned for the past forty years. Massive armored formations fighting cataclysmic campaigns across Europe and ultimately around the world, imminent nuclear escalation, and the United States and the other countries of the free world fighting for their national survival will probably not characterize the wars of the near term future. Regional conflicts are much more likely. These regional conflicts will, from the US perspective, be much more limited in scope, forces, and most importantly objective. It is unlikely that the total destruction of the enemy's force will be a military or political objective. The recent Persian Gulf war illustrates the

need to significantly damage a large enemy army, but not totally destroy it because of the imbalance of power that would be created in the region. It is even more unlikely that the United States will attempt to conquer or occupy territory. Finally, it is not likely that in the near future that the survival of the United States can be directly threatened by an adversary's military action.

Given the limited nature of war and the desire to keep military action at the lowest intensity level necessary to meet security objectives but also realizing that the commitment of US forces will be designed to produce an overwhelming victory in a short period of time is paradoxical. Operational commanders are required to balance military operations that are constrained by numerous political, economic, and military considerations but nonetheless required to achieve ambitious objectives.

The limited scope and objectives that will characterize future conflicts pose new challenges for the US military. The nuances of lower intensity conflicts will require innovative, unconstrained thinking and full consideration of all options available. In many situations the desired ends of future conflicts may be able to be achieved by executing a bold raid or series of raids designed by an operational commander. The possibility of a raid, which has been traditionally associated with small unit tactical activity in a supporting role, being elevated to a higher,

more complex level to achieve greater objectives is increasing as a result of the emergence of limited objective conflicts.

Means

To this point it has been established that the strategic environment and the aims that are likely to be sought by the military are conducive to raid warfare. The next element that must be examined is the force structure available to operational commanders.

Recent experiences suggest that the full range of weapons, forces, and capabilities will be made available to a commander who is engaged in combat operations. In Operation JUST CAUSE the Joint Task Force commander employed and benefitted from stealth fighters, national intelligence assets, electronic warfare capabilities, and a number of special operating forces. Although not a raid, Operation DESERT SHIELD/STORM further demonstrated the willingness of the military establishment to use the full range of available weapons to achieve the stated objective. B52 bombers, ship, and submarine launched cruise missiles, stealth technology, ballistic missile defenses, new applications of space technology, and precision guided munitions of all varieties are but a few of the assets that contributed to an overwhelming victory

in the Persian Gulf War. This abridged list of forces includes systems developed in the 1950s to others that were pressed into service under emergency conditions before their field tests had been completed. These forces also demonstrate the willingness and flexibility to modify existing, traditional command structures to provide the assets required to the combatant commander.

For the purpose of this monograph the question becomes: Are the collective forces, assets, and capabilities of the US military suited to conduct large-scale raids to accomplish operational objectives? The answer to this question centers on the intelligence capability to locate and track critical targets that are vulnerable to a raid, the capability to penetrate to deep targets, and forces that can deliver sufficient firepower or destruction or otherwise complete the mission after making the penetration to the target. It is not the purpose of this monograph to state and expound on the impressive technical and operational capabilities of the arsenal of US equipment but rather to subjectively evaluate its utility in raid warfare. The impact of technology cannot be overlooked. The technological advances that have impacted on the tools of warfare in the last decade are astounding and must be addressed when discussing the forces and capabilities of the US military of the 1990s.

The United States' unquestioned dominance in technology provides opportunities to dictate how battle is conducted. In its assessment of technology TRADOC PAM 525-5 states

We have progressed to the point where we now have the ability to see significant enemy forces in all weather and at great depth and to decide which forces to attack with a variety of precision weapon systems of escalating lethality.²⁵

When examining the systems and capabilities that have been fielded and proven in the last ten years it is not an exaggeration to proclaim that there has been a technological revolution in the tools of war.

According to a model presented by James McDonough, Director of the School of Advanced Military Studies, twentieth century warfare has been affected by three major technological factors that have greatly influenced the ways of war. At the turn of the century while still learning the lessons of the American Civil War, the dominant advances were related to fires on the battlefield. Improved rifles, smokeless powder, rapid fire artillery, and the machine gun led to attrition warfare. Later, technology fueled by oil and the internal combustion engine, produced huge improvements in naval, air, and mechanized ground forces. The Spanish Civil War, World War II, and America's involvement in Vietnam were characterized by varying degrees of maneuver warfare. During the last part of the century, and in the last decade in particular, unprecedented advances have been made in the information

systems that are critical to modern war. The impact of computers, satellites, and digitized communications has moved the art of war to a new level that is best characterized as precision warfare.²⁶

Precision is certainly a characteristic of a successful raid at any level. The capabilities provided by the landslide of technological advances allow real time intelligence, instant communication, and a computer data base that provides near perfect information to commanders and their staffs. This degree of precision is critical to planning and executing an operational raid.

The Center for Strategic and International Studies (CSIS) takes a similar view of US technological dominance in the information arena. CSIS considers the leverage in information to be the result of several enabling factors including: the professionalism and technical expertise of the force; space and electronic warfare assets (imaging, signals intelligence, global positioning systems); precision weapons; and a myriad of battle management systems (AWACS, JSTARS, AEGIS, electronic warfare, electronic counter measures, and the ability to fuse sensors, computers, and avionics). Perhaps the greatest enabler is the ability to integrate cutting edge technologies from many functional areas to produce weapon systems such as theater ballistic missile defenses.

In addition to "applied technological dominance," CSIS considers the relative strengths of the US military to exist functionally in sea power, air forces, and special operations forces. Additionally, the United States enjoys "military cultural dominance" that is produced as a result of skilled, quality manpower in the ranks of the armed forces.²⁷

The strengths currently attributed to the US military make the force credible in any situation. However, information dominance, with its subset of battlefield/theater intelligence, and world class sea, air, and special operating forces are particularly well suited for raid warfare at the operational level.

Following the Persian Gulf War there were a plethora of analyses and critiques published concerning every aspect of the conflict. Predictably, many of these reports focused on the performance of the US military. The written and verbal observations and interpretations of the strategists, leaders of the military, and other informed commentators from within the former Soviet Union that are available in open sources add support to the premise that the US military has been on the leading edge of a technological revolution in warfare. In The Soviet Military Views Operation Desert Storm: A Preliminary Assessment Stephen Blank, an analyst at the Strategic Studies Institute, discusses the quantum leap in weaponry that some members of

the Soviet military predicted in the early 1980s. According to Blank's report the Soviets believe they saw their predictions validated in the Gulf War and they "discern the actualization of a revolution in military affairs due to conventional high precision munitions and reconnaissance strike systems."²⁸ Most importantly, the best military minds from the Soviet military, almost unanimously, see future wars conducted as a series of simultaneous strikes on critical targets using advanced technology systems.²⁹

Lieutenant General V.G. Reznichenko, author of Taktika, the Soviet textbook on tactics, wrote at length about "new elements of war" which he listed as "electronic attack, PGMs, airborne assault forces, raiding detachments, and special forces," organized into combined arms units executing simultaneous operations from the front, flank, and rear.³⁰ The ability to coordinate these complex operations laterally and in depth is a result of the information systems previously described.

Lieutenant General Bogdanov, Chief of the General Staff's Operational-Strategic Center, commented, "The most important conclusion of the Persian Gulf crisis is evidently that every modern local conflict will be prosecuted using nonstandard methods and new forms of using armed forces." [sic] He also sees modern war as a war of intellects who will devise these nonstandard methods.³¹

Vladimir Slipchenko, the Director of Scientific Research at the Academy of the General Staff, commenting on likely nonstandard methods that may characterize future wars, may have offered the most astute observation of the Gulf war when he said

This war forces us to rethink the traditional concept of victory; ie, demolition of enemy armies, economy, and political systems by occupation, because strike systems could accomplish³² most, if not all, of these goals on their own.

In his synthesis of Soviet writings on the Gulf war Blank concludes that the spectrum of US and allied forces and capabilities were orchestrated to "achieve surprise at all levels especially in the critical initial phases of the war." He continues, "Long range strike weapons from air, sea, and ground platforms may well terminate the war in that period making the initial period of the war the only one of the conflict."³³

Although they don't use the same words, the military strategists of the former Soviet Union envision contemporary, technologically advanced weapons and forces, being used in some form of raid warfare in the future. Similarly, analysis by individuals and groups within the United States that conclude that US forces have evolved to a level of precision warfare and have achieved dominance in human, technical, and functional domains, supports the idea that decisive raid warfare is not beyond our means.

Operational Conditions

The preceding section of this monograph discussed aspects of the strategic picture that support the thesis that in the current strategic setting, operational raids are a viable method to achieve certain limited objectives. It is now necessary to understand the specific circumstances that must be present in a theater for a raid to be a feasible course of action for an operational commander. The three conditions addressed are: existence of a suitable target; availability of forces; and the political or diplomatic constraints that impact on the type of operation planned.

Identifying, assessing, and selecting an appropriate target is likely to be the most difficult and perplexing task involved in raid warfare. General Giulio Douhet, the Italian air power theorist who was one of the staunchest proponents of strategic bombing and air raids to produce decisions in war, fully recognized the complexity of the targeting process. He believed that raids could be no more effective than the logic that governs its choice of targets.³⁴

To achieve decisiveness at the operational level the target must obviously be of the utmost importance to the enemy's forces. It is also likely that such a target will

be heavily guarded. The art that is required in designing an operational raid involves combining the vast array of weapons and capabilities into a package that avoids, suppresses, deceives, or destroys the enemy's defenses enroute to and at the objective. What then should an operational commander select as a target?

Theoretically every enemy force is built around a center of gravity. Center of gravity is a term introduced by Carl von Clausewitz in On War.³⁵ Unfortunately, Clausewitz makes it very difficult to define center of gravity because he offers no less than ten variances in his text. The center of gravity is addressed at length in an appendix to FM 100-5. It states:

The center of gravity of an armed force refers to those sources of strength or balance. It is that characteristic, capability, or locality from which the force derives its freedom of action, physical strength, or will to fight. Clausewitz defined it as "the hub of all power and movement, on which everything depends." Its attack³⁶ is-or should be-the focus of all operations.

This definition and other descriptions of the center of gravity in FM 100-5 often lead planners to conclude that an enemy's center of gravity is the mass of his force. From a military point of view, if the enemy's armed force is destroyed he certainly does not have a source of military strength. This approach, however, is very direct and unimaginative. Even with the most skillful employment of forces, an attack on the mass of the enemy's force risks

becoming a protracted campaign of attrition that our doctrine advises against. If the enemy's center of gravity is his army, it is difficult to "concentrate superior strength against enemy vulnerabilities at the decisive time and place to achieve strategic and policy aims."³⁷ In those circumstances where the enemy's center of gravity is his army, and that army must be destroyed, then a raid is probably not a feasible way to achieve the campaign objective.

On the other hand, if there is a component part, subset, facility, or process of the enemy's armed force that if destroyed or seriously damaged will unbalance the entire structure, then a raid should be considered. If such a target is vulnerable or poorly defended, the possibility of a successful raid is even greater. To use an anatomical analogy, raids are best directed against an Achilles Heel or a solar plexus. A well-planned raid seeks to attack a series of critical points to disintegrate or threaten the center of gravity without direct combat against it.

Dropping out of the theoretical world, commanders and their staffs are challenged with locating these targets in a theater of operations, not in the ether. Such targets will most likely exist and may be susceptible to raids. Enemy command, control, and communication facilities, air defense weapons and radars, logistics bases, energy

sources, and key elements of infrastructure are potential targets. Although each of these types of targets are important, they may not be decisive. If a war-winning, knock out punch is sought, the recuperability or redundancy of the target must be considered. Eliminating a small percentage of a critical asset, or temporarily degrading communication will not produce decisive results.

In this respect, technology may contribute in an indirect way, not providing the means to attack a target, but by producing one. The increased cost of modern technology will result in increasingly centralized high-value targets. Our potential enemies will continue to seek and purchase state of the art weapon systems, but the prohibitive cost of these systems will prevent an enemy from building a quantitatively robust force. As nations can afford fewer systems they are forced to put their eggs in a smaller number of baskets, thus creating potential targets for raids.

Within many countries of the Third World the trend continues to be the purchase of hardened, capable combat units at the neglect of logistics, communication, or intelligence systems. These "soft" targets in the rear become critical nodes that are potential targets. In The Evolution of Modern Land Warfare, Chris Bellamy notes

Throughout military history, new technics have sometimes made it possible to restore or revive earlier strategic, operational, and tactical

ideas, though in a different form. The most important case in the future is likely to be the age-old objective of destroying and paralyzing the enemy's command and control, preferably without having₈ to fight through a defended front to get at them.

Bellamy goes on to say that there are new means and ways to attack the enemy's 'brain and stomach'.³⁹ The enemy's logistics and command and control centers produce a very distinct signature that allows these nodes to be targeted. Attacking these targets will usually have a large impact in the moral domain that further enhances the physical destruction of a raid.

Targeting will remain the most difficult process in planning an operational raid. Technology provides assistance in the process but the analysis is left to the human mind. The decisions are made by men who can include the moral and leadership factors that are critical. The payoff for the difficult task of discerning the appropriate target could be immense.

At the national level the US armed forces possess the means to conduct operational raids. In order to execute such an operation an operational commander must have these forces available for short-notice employment. When a target is identified and selected, its vulnerability will exist only for a limited period of time. The forces and means need to be positioned where they can strike into a limited window of opportunity.

More importantly, the forces must be trained to conduct large-scale, complex, high risk, joint operations. An operational raid aimed at an objective to produce decisive results will necessarily be a complex, multifaceted operation. Such an operation will probably involve both special operating and conventional forces. A well packaged and tailored logistics element will be required as well as selected combat support capabilities. It is entirely possible that a small package of heavy forces may be included in an operational raid. Thus a multi-service, combined arms team that integrates the capabilities of a broad range of forces is required.

The synchronization required to arrange activities of EW aircraft, strike aircraft, transports, a fighter combat air patrol, long-range precision fires from many platforms, and the full spectrum of ground forces is staggering. The friction caused by operating deep in the enemy's rear area at a location that will probably be very important to him makes the task even more difficult.

An ad hoc organization is doomed to failure. At a higher level, the attempt to rescue American hostages in Iran in April 1980 is vivid testimony to the shortcomings of a less than fully trained organization. Training must occur at all levels from the operational staff to the units that will interface during execution.

The interface between special and conventional units is critical especially at the higher levels. The special operators can not remain cloaked in secrecy and expect an operational commander to employ them on the battlefield based on faith alone. Leaders will not execute bold, high risk raids unless they are personally comfortable with the plan and the forces.

The other critical factor that is required to allow an operational raid to be successful and potentially decisive is a credible, conventional ground force postured to conduct a traditional campaign. This "fleet in being"⁴⁰ presents the enemy with a major threat and demands resources be committed to counter this threat. The resources committed against this the conventional force are therefore not available to protect other assets that may be the target of a raid. In effect, a conventional force prepared to engage in a traditional campaign becomes a second front or a very large diversion. The conventional force that is located in the theater is also in position to take advantage of the effects of the raid if the raid itself does not produce a decision or to act as a relief force if the raiders are not able to extract themselves. Thus, it is possible to avoid using the conventional force (with the possibility of high casualties in a protracted campaign) only if you have one and are prepared to use it.

Finally, the operational commander, in conjunction with strategic authorities must be cognizant of the political or diplomatic conditions that surround the theater. Raids by their very nature capitalize on the element of surprise at all levels. The greatest success will probably result if the raiding force is a "bolt from the blue." However, there may be constraints on how or when a raid is executed or on what is targeted. As stated in FM 100-5, "strategic guidance will constrain some otherwise attractive options."⁴¹

The military action of the operational commander must be balanced against the larger picture. A preemptive military strike (or an action that can be interpreted as one) launched before other forms of suasion (diplomacy, economic blockade) may not serve the national interest. When evaluating methods to achieve military objectives, the operational commander is obliged to inform higher authorities of his plan, particularly if its boldness and audacity will invoke controversy.

IV. CONCLUSION

Raids conducted at the operational level, just as any other method of combat, should be considered as an option by a commander when deciding how to achieve military objectives. This monograph has demonstrated that an

operational raid can be the event that achieves the strategic goals and conclusively ends a campaign. However, raids are not the only answer to using the military element of power. In various situations the United States will continue to use its military in shows of force; long-term counterinsurgency operations; large, traditional campaigns between massed armies, and in many other ways depending on the situation.

However, the conditions and circumstances that currently exist make raid warfare in general, and raids at the operational level in particular a very viable method. After developing the definitions that were essential to understanding the subject, this monograph examined several factors at the strategic and operational levels of war that support the thesis that raids can be decisive.

At the strategic level, the demise of the Soviet Union that leaves the United States as the world's only super power allows many more options for the use of force when confronted by the new threats that have emerged. The limited objectives that may characterize future armed conflicts also suggest that the ways of employing military forces will be different from the traditional twentieth century campaign. The United States will seek not to escalate the lower-intensity conflicts, but when called for, will apply force in an overwhelming manner that rapidly achieves our goals. Operational raids fit the

prescription for accomplishing limited objectives in a short period of time. The US military also possesses the means to conduct successful raid warfare. Huge technological advances in information systems have put the United States in the position to execute precision warfare. The technological dominance of the current armed forces has produced the ability to identify and track critical enemy targets, allow forces to penetrate to and withdraw from such a target in a short period of time, and utterly destroy the target or otherwise accomplish its mission in the objective area.

At the operational level, the commander must determine how he will employ the forces he has been allocated to accomplish his mission. The presence and selection of a target that if successfully eliminated by a raid will achieve the military and strategic objectives is the biggest challenge. If a suitable target is present, the operational commander must have available the correct forces to execute a raid. The window of opportunity to strike the target may be very brief. Therefore the forces need to be present, trained, able to plan in a time-compressed situation, and ready to be employed on short-notice. Finally, the operational commander must evaluate the acceptability of a raid as a course of action in a given situation. It is possible that a raid may be

the optimal military solution, but is beyond what is politically acceptable.

Raids at the operational level will continue to support larger operations that lead to decisiveness in other forms. However, recognizing the circumstances and conditions that are described in this paper, an innovative and audacious commander will also see that an operational raid in and of itself can be the decisive event.

Endnotes

¹Paul C. Jussel, "Operational Raids: Cavalry in the Vicksburg Campaign, 1862-1863," (MMAS Thesis, US Army Command and General Staff College, 1990), 50-51.

²US Army, FM 100-5, Operations (Washington, DC: Department of the Army, 1986), 29.

³Archer Jones, The Art of War in the Western World (Chicago: University of Illinois Press, 1987), 54.

⁴Ibid., 64.

⁵Russell F. Weigley, The American Way of War (Bloomington: Indiana University Press, 1977), 3.

⁶Joint Chiefs of Staff, Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms (Washington DC: US Government Printing Office, 1989), 301 and US Army, FM 101-5-1 Operational Terms and Symbols (Washington DC: Department of the Army, 1985), 1-59.

⁷FM 100-5, 95.

⁸FM 100-5, 19.

⁹James E. Mrazek, The Fall of Eben Emael (New York: Luce Publishing, 1971), 189.

¹⁰Clay Blair, The Forgotten War-America in Korea 1950-1953 (New York: Doubleday, 1988), 273.

¹¹FM 100-5, 20.

¹²B. H. Liddell Hart, "Analysis of Cavalry Operations in the American Civil war, with Special Reference to Raids on Communications," in The Military Legacy of the Civil War, ed. Jay Luvaas, (Chicago: Chicago University Press, 1959), 243.

Endnotes

¹³John I. Alger, "Definitions and Doctrine of the Military Art," (Interim Text, Department of History, United States Military Academy, 1979), 224.

¹⁴James M. Dubik, "The Gulf War and Decisiveness," (Unpublished paper, 1991), 5.

¹⁵US Army, TRADOC PAM 525-5, A Concept for the Evolution of AirLand Battle for the Strategic Army of the 1990s and Beyond, (Fort Monroe, US Army Training and Doctrine Command, 1991), 16.

¹⁶FM 100-5, 28.

¹⁷William P. Miller, "Victory by Precise Plan," Military History (February 1992): 44.

¹⁸Ibid., 49.

¹⁹Dr. Lawrence Yates, "Some Thoughts on US Interventions since World War II," Lecture delivered to School of Advanced Military Studies, 14 April 1992.

²⁰Ibid.

²¹TRADOC PAM 525-5, 13.

²²Robert M. Epstein, "Eagles Triumphant-Napoleon and Eugene in the War of 1809," Course Readings, (Fort Leavenworth, Ks: School of Advanced Military Studies, 1991), 4.

²³Carl von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 89.

²⁴Richard E. Simpkin, Deep Battle: The Brain Child of Marshal Tukhachevskii (London: Brassey's Defence Publishers, 1987), 255.

²⁵TRADOC PAM 525-5, 8.

²⁶James R. McDonough, "The Changing Nature of War," Presentation delivered at the School for Advanced Military Studies, 13 February 1992.

²⁷Don M. Snider, "Cooperative and Competitive

Endnotes

Strategies," Presentation to the Advanced Military Studies Program class, Washington DC, 10 January 1992.

²⁸Stephen J. Blank, The Soviet Military Views Operation Desert Storm: A Preliminary Analysis, Strategic Studies Institute (Carlisle Barracks, Pa: US Army War College, 1991), 3.

²⁹Ibid., 3.

³⁰Ibid., 19.

³¹Ibid., 10.

³²Ibid., 8.

³³Ibid., 13.

³⁴Giulio Douhet, The Command of the Air, trans. Dino Ferrari (Washington, DC: Office of Air Force History, 1983), 59-60.

³⁵On War, 596.

³⁶FM 100-5, 179.

³⁷FM 100-5, 27.

³⁸Christopher Bellamy, The Evolution of Modern Land Warfare, (New York: Routledge, 1990), 242.

³⁹Ibid.

⁴⁰Julian S. Corbett, Some Principles of Maritime Strategy (Annapolis: Naval Institute Press, 1988), 209. Corbett uses the term "fleet in being" to describe a potential threat that exists as long as one opponent maintains a credible force capable of engaging in combat.

⁴¹FM 100-5, 29.

BIBLIOGRAPHY

Periodicals

Miller, William P. "Victory by Precise Plan," Military History (February 1992): 42-49.

Herman, Mark. "Raid! Commando Operations in the 20th Century," Strategy and Tactics 64 (September 1977): 4-16.

Unpublished Material

Alger, John I. "Definitions and Doctrine of the Military Art." Interim text, Department of History, United States Military Academy, 1979.

Bolzack, Jerry R. "The Role of the Airmechanized Raid in Operational Maneuver." Monograph, School of Advanced Military Studies, 1990.

Epstein, Robert M. "Eagles Triumphant-Napoleon and Eugene in the War of 1809." Course Readings, School of Advanced Military Studies, 1991.

Jussel, Paul C. "Operational Raids: Cavalry in the Vicksburg Campaign." Master of Military Art and Science Thesis, US Army Command and General Staff College, 1990.

Moore, Lawrence W. "The Mounted Raid: An Overlooked Deep Operations Capability." Monograph, School of Advanced Military Studies, 1991.

Snodgrass, James G. "Operational Maneuver-From the American Civil War to the OMG: What are its origins and will it work today?" Monograph, School of Advanced Military Studies, 1988.

Steers, Howard J. "Raiding the Continent: The Origins of British Special Service Forces." Master of Military Art and Science Thesis, US Army Command and General Staff College, 1980.

Government Documents

Joint Chiefs of Staff. Joint Pub 1, Joint Warfare of the US Armed Forces. Washington, DC: National Defense University Press, 1991.

Joint Chiefs of Staff. Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms. Washington, DC: US Government Printing Office, 1989.

Joint Chiefs of Staff. Joint Pub 3-03.1, Doctrine for Joint Precision Interdiction (JPI). Washington, DC: US Government Printing Office, 1991.

US Army. FM 100-5, Operations. Washington, DC: Department of the Army, 1986.

US Army. FM 101-5-1, Operational Terms and Symbols. Washington, DC: Department of the Army, 1985.

US Army. TRADOC PAM 525-5, A Concept for the Evolution of AirLand Battle for the Strategic Army of the 1990s and Beyond. Fort Monroe, Virginia: US Army Training and Doctrine Command, 1991.

Books

Bellamy, Christopher. The Evolution of Modern Land Warfare. New York: Routledge, 1990.

The Future of Land Warfare. New York: St. Martin's Press, 1987.

Blair, Clay. The Forgotten War-America in Korea 1950-1953. New York: Doubleday, 1988.

Cooper, Matthew. The German Army 1933-1945. Chelsea, Mi: Scarborough House, 1978.

von Clausewitz, Carl. On War. ed. and trans. Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.

Corbett, Julian S. Some Principles of Maritime Strategy. Annapolis: Naval Institute Press, 1988.

van Creveld, Martin. The Transformation of War. New York: The Free Press, 1991.

Douhet, Giulio. The Command of the Air. Translated by Dino Ferrari. Washington, DC: Office of Air Force History, 1983.

Fuller, J.F.C. Decisive Battles of the U.S.A. New York: The Beechhurst Press, 1953.

Hagerman Edward. The American Civil War and the Origins of Modern Warfare. Bloomington: Indiana University Press, 1988.

Jones, Archer. The Art of War in the Western World. Chicago: University of Illinois Press, 1987.

Liddell Hart, B.H.. "Analysis of Cavalry Operations in the American Civil War, with Special Reference to Raids on Communications." In The Military Legacy of the Civil War. Jay Luvaas. Chicago: Chicago University Press, 1959: 237-244.

Longacre, Edward G. Mounted Raids of the Civil War. New York: A.S. Barnes and Company, 1975.

Millis, Walter. Arms and Men: A Study of American Military History. New York: Putnam Books, 1956.

Mrazek, James E. The Fall of Eben Emael. New York: Luce Publishing, 1971.

Simpkin, Richard E. Deep Battle: The Brain Child of Marshal Tukhachevskii. London: Brassey's Defence Publishers, 1987.

Race to the Swift: Thoughts on Twenty-First Century Warfare. London: Brassey's Defence Publishers, 1985.

Weigley, Russell F. The Age of Battles. Bloomington: Indiana University Press, 1991.

The American Way of War.
Bloomington: Indiana University Press, 1977.

Wert, Jeffry D. Mosby's Rangers. New York: Simon and Schuster, 1990.

Whiting, Charles. Hunters from the Sky: The German Parachute Corps 1940-1945. New York: Stein and Day Publishers, 1974.

Special Reports and Studies

Blank, Stephen J. The Soviet Military Views Operation Desert Storm: A Preliminary Analysis. Strategic Studies Institute (Carlisle Barracks, Pa: US Army War College, 1991).